LWS 4th-5th Grade Science Curriculum (2019-2020)

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Physical Science

UNIT 1

The Building Blocks of Matter

CONCEPTS

1.1 Review of Matter

In this concept, you'll review the characteristics and qualities of matter.

1.2 Atoms

As you go through the day, think about the matter around you. All the matter you see is made up of atoms and molecules. In this concept, you'll learn even more about these amazing building blocks of matter.

UNIT 2

Combining Matter

CONCEPTS

2.1 Types of Mixtures

How do you know something is a mixture? In this concept, you'll learn that a mixture is a combination of two or more substances that can be separated by physical means and how to classify them as heterogenous or homogenous (solutions).

2.2 Solutions

Have you ever had a medicine or drink made by dissolving a powder in a glass of water? If so, you were making and drinking a solution. In this concept, you'll learn the characteristics of a solution, as well as how the powder dissolves.

2.3 Compounds

A compound forms when two or more elements combine chemically. For example, water forms when two hydrogen atoms combine with one oxygen atom. In this concept, you'll learn even more about compounds in our world.

2.4 Building with Materials

As you walk through your town, take a look at the different structures. What shapes

were used to build the buildings and bridges? In this concept, you'll learn about the strongest shapes used in building and how different parts can be put together to create the strongest structures.

UNIT 3

Changes in Matter

CONCEPTS

3.1 Changing States

When the temperature rises, fluffy, dry snow becomes wet and crunches under your feet. Sledding that was once slick, is now wet and sticky. What happened? The snow that was just recently solid has melted and changed its state. In this concept, you'll learn that there is no limit to the number of times matter (snow) can melt, vaporize, condense, or freeze

3.2 Chemical Changes

Everyone likes to eat freshly baked cookies. The change that turns dough into a cookie is called a chemical change. Chemical changes are also called reactions. In this concept, you'll learn that reactions are happening all around us.

UNIT 4

Earth's Force

CONCEPTS

4.1 Gravity

This force of gravity affects every object in the universe. On Earth, if you jump up in the air, you would land right back down on the ground. But an astronaut in orbit who jumps up would keep floating away. In this concept, you'll discover how gravity works on the Earth and in space.

Life Science

UNIT 5

Energy for Humans and Other Living Things

CONCEPTS

5.1 Food and Oxygen

Food helps your body to produce the energy it needs. When you have a sandwich for lunch, your body uses the food to produce the energy it needs to keep you moving for the next few hours. In this concept, you'll learn why food and oxygen are so important to organisms.

5.2 Basic Needs of Plants

All living things have some basic needs, like food and water. Plants need some of

the same things we need to survive. In this concept, you'll learn a lot more about plants and what they need to live.

5.3 Parts of Ecosystems

A healthy ecosystem has many different kinds of producers, consumers, and decomposers. In this concept, you'll learn more about how they all interact in ecosystems.

5.4 Energy in Systems

When parts work together to do a job, we call it a system. Living and nonliving things form many different systems. In this concept, you'll learn how energy flows through each system

Earth and Space Science

UNIT 6

Patterns in the Sky

CONCEPTS

6.1 Constellations

You and a friend are sitting outside on a warm summer night. You look up at the stars and notice that some of the stars seem to make a pattern or design in the sky. These star patterns are called constellations. In this concept, you'll explore the history and use of constellations.

6.2 Our Star the Sun

The Sun gives us light and warmth. Plants need Sunlight to grow. Without the Sun, plants could not survive. Animals that eat plants couldn't survive either. In this concept, you'll discover that without the Sun, life as we know it could not exist on Earth.

6.3 The Cycle of Day and Night

The cycle of day and night is caused by Earth's rotation. In this concept, you will discover what causes the cycle of day and night on Earth and other planets.

6.4 The Seasons

You have probably learned about seasons in the Northern and Southern Hemispheres. In this concept, you'll learn about what causes the seasons and why they differ in opposite parts of the world.

UNIT 7

The Changing Earth

CONCEPTS

7.1 Waters of the Earth

How much do you really know about the different places on Earth that have water?

Did you know that there are different kinds of water? In this concept, you'll learn about the different types of water sources on Earth.

7.2 Water Cycle

The total amount of water on Earth never changes. It is recycled over and over again. In this concept, you'll explore the water cycle and how evaporation, precipitation, and condensation occur.

7.3 Water in the Atmosphere

Have you ever wondered about rain. You know it comes from clouds. But where do clouds come from? How does all that water even get into the sky? In this concept you'll learn about the relationship among the atmosphere, clouds, and rain.

7.4 Formation of Landforms

Coast lines, dunes, rivers, mountains, and glaciers are some examples of the landforms that make up our Earth. In this concept, you will learn how to describe these landforms as they relate to Earth's great design.

UNIT 8

Protecting The Earth

CONCEPTS

8.1 Alternative Energy Sources

Why is it important to conserve energy? If we overuse non-renewable energy sources, we could run out. In this concept you will explore alternative energy sources that renew naturally. You will also identify advantages and disadvantages of using renewable resources.

NGSS (Next Generation Science Standard):
5-LS1 - From Molecules to Organisms: Structures and Processes
5-LS2 - Ecosystems: Interactions, Energy, and Dynamics

5-ESS1 - Earth's Place in the Universe
5-ESS2 - Earth's Systems
5-ESS3 - Earth and Human Activity

5-PS1 - Matter and Its Interactions
5-PS2 - Motion and Stability: Forces and Interaction
5-PS3 - Energy